

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A tunable filter with a wide free spectral range, comprising:
a first collimator with an inclined plane;
a second collimator with an inclined plane with one end opposed to the first collimator,
~~wherein a high reflectivity layer is coated on the end of the second collimator, wherein the first~~
~~collimator carries an optical input signal to the tunable filter and the second collimator carries an~~
~~optical output signal from the tunable filter; and~~
a micro-electromechanical system-based (MEMS-based) one-piece a reflector interposed
between the first collimator and the second collimator, the reflector comprising a curved lens;
~~the reflector comprising:~~
a base;
an aperture defined on the base; and
a multi-layered film with high reflection capability formed on the base and
extending over the aperture, wherein the multi-layered film extending over the aperture
serves as a curved lens, the curved lens having no contact with the base, and a
resonance cavity is defined between wherein the curved lens and the second collimator
define a resonance cavity to determine a resonance frequency.
2. (Currently Amended) The tunable filter as claimed in claim 1, wherein the tunable filter
is a heat-actuated type filter and the curved lens is a multi-layered film [[is]] formed with
alternate layers of GaAs and AlAs.
3. (Currently Amended) The tunable filter as claimed in claim 1, wherein the tunable filter
is an electrostatic-actuated type filter, and the reflector is a micro-electromechanical system-
based (MEMS-based) one-piece reflector further comprises comprising a dielectric layer and an

electrode layer sequentially formed on ~~[[the]]~~ a base with an aperture, both the dielectric layer and the electrode layer have an opening corresponding to the aperture.

4. (Currently Amended) The tunable filter as claimed in claim ~~[[3]]~~ 2, wherein the multi-layered film is formed by alternate layers of GaAs and AlAs.

5. (Currently Amended) The tunable filter as claimed in claim ~~[[3]]~~ 2, wherein the multi-layered film is formed by alternate layers of TiO₂ and SiO₂.

6. (Currently Amended) The tunable filter as claimed in claim 1, wherein the first collimator has one end extending towards the second collimator, and the first collimator has ~~wherein~~ an anti-reflection layer ~~[[is]]~~ coated on the end of the first collimator.

7-9. (Cancelled)

10. (New) The tunable filter as claimed in claim 1, wherein each of the first and the second collimator has an inclined plane.

11. (New) The tunable filter as claimed in claim 1, wherein the reflector comprises:
a base;
an aperture defined on the base; and
a multi-layered film with high reflection capability formed on the base and extending over the aperture, wherein the multi-layered film extending over the aperture serves as the curved lens and the curved lens has no contact with the base.

12. (New) The tunable filter as claimed in claim 1, wherein the second collimator has a lens surface with a reflective layer.